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<110> Richardson, Jennifer
Monahan, John

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REFRACTORY AND METASTATIC PROSTATE CANCERS

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 65 70 75 80
 Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
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 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
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 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
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 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
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 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
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 Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
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 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
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Phe	Ile	Gly	Glu	His	Thr	Glu	Glu	Ile	Leu	Glu	Glu	Phe	Gly	Phe	Ser	
345					350					355					360	
cgc	gaa	gag	att	tat	cag	ctt	aac	tca	gat	aaa	atc	att	gaa	agt	aat	1217
Arg	Glu	Glu	Ile	Tyr	Gln	Leu	Asn	Ser	Asp	Lys	Ile	Ile	Glu	Ser	Asn	
				365					370						375	
aag	gct	ggt	agc	aag	ttc	tgg	atc	tta	tac	cca	aca	cac	agc	aac	atc	1265
Lys	Ala	Gly	Ser	Lys	Phe	Trp	Ile	Leu	Tyr	Pro	Thr	His	Ser	Asn	Ile	
			380					385						390		
cag	aaa	taa	agatctc	agg	accccc	agca	agtcgt	ttt	gtgtctc	ctt	ggactga					1321
Gln	Lys															
g	t	a	a	g	c	t	t	t	c	t	t	c	t	t	t	
t	a	a	a	a	c	c	a	g	c	t	t	t	c	t	t	1381
t	a	a	a	a	c	c	a	c	a	c	c	a	a	a	a	1441
g	g	g	t	a	g	a	t	t	c	a	a	a	a	a	a	1501
t	g	g	t	a	g	a	t	t	c	a	a	a	a	a	a	1561
a	a	g	a	g	a	a	a	a	a	a	a	a	a	a	a	1621
c	t	t	c	t	t	a	g	t	t	c	c	a	a	a	a	1681
a	g	a	a	a	t	a	t	c	t	c	a	a	a	a	a	1741
c	c	t	a	c	a	a	c	t	a	a	a	a	a	a	a	1801
c	a	t	t	t	c	t	a	t	t	a	a	a	a	a	a	1861
a	c	t	g	t	g	c	a	a	c	t	g	c	a	a	c	1921
g	t	t	g	t	g	t	c	c	a	t	a	a	a	a	a	1981
a	a	a	t	a	t	a	a	a	a	a	a	a	a	a	a	2041
a	c	t	a	g	t	a	g	t	t	c	a	a	a	a	a	2101
t	t	t	t	a	a	t	a	t	a	a	a	a	a	a	a	2161
g	t	t	t	t	a	a	a	a	a	a	a	a	a	a	a	2221
t	c	a	a	a	t	t	a	a	a	a	a	a	a	a	a	2281
t	t	t	c	c	a	t	a	a	a	a	a	a	a	a	a	2341
g	a	g	a	c	c	a	c	a	c	c	a	a	a	a	a	2401
a	t	c	c	a	g	t	a	t	a	t	a	a	a	a	a	2461
a	c	t	t	g	a	g	c	c	c	a	a	a	a	a	a	2521
a	g	g	c	a	a	c	a	c	c	t	a	a	a	a	a	2581
a	t	g	t	t	t	c	c	c	a	a	a	a	a	a	a	2641
c	a	c	t	c	g	a	a	a	a	a	a	a	a	a	a	2701
g	c	a	g	a	a	a	a	a	a	a	a	a	a	a	a	2761
c	c	a	c	t	c	c	t	a	t	a	a	a	a	a	a	2821
t	t	g	c	t	g	c	a	c	c	a	a	a	a	a	a	2881
a	t	c	t	a	g	g	a	a	a	a	a	a	a	a	a	2941
c	t	c	c	c	a	t	a	g	c	c	a	a	a	a	a	3001
c	a	t	a	g	a	t	a	a	a	a	a	a	a	a	a	3061
g	t	g	t	a	t	c	t	a	c	t	a	a	a	a	a	3121
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 <212> PRT
 <213> Homo sapiens

<400> 7

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Arg	Val	Asp	Arg	Pro	Gly	Ser	Arg	Tyr	Asp	Val	Ser	Arg	Leu	Gly	Arg	35	40	45	
Gly	Lys	Arg	Ser	Leu	Val	Leu	Asp	Leu	Lys	Gln	Pro	Arg	Gly	Ala	Ala	50	55	60	
Val	Leu	Arg	Arg	Leu	Cys	Lys	Arg	Ser	Asp	Val	Leu	Leu	Glu	Pro	Phe	65	70	75	80
Arg	Arg	Gly	Val	Met	Glu	Lys	Leu	Gln	Leu	Gly	Pro	Glu	Ile	Leu	Gln	85	90	95	
Arg	Glu	Asn	Pro	Arg	Leu	Ile	Tyr	Ala	Arg	Leu	Ser	Gly	Phe	Gly	Gln	100	105	110	
Ser	Gly	Ser	Phe	Cys	Arg	Leu	Ala	Gly	His	Asp	Ile	Asn	Tyr	Leu	Ala	115	120	125	
Leu	Ser	Gly	Val	Leu	Ser	Lys	Ile	Gly	Arg	Ser	Gly	Glu	Asn	Pro	Tyr	130	135	140	
Ala	Pro	Leu	Asn	Leu	Leu	Ala	Asp	Phe	Ala	Gly	Gly	Gly	Leu	Met	Cys	145	150	155	160
Ala	Leu	Gly	Ile	Ile	Met	Ala	Leu	Phe	Asp	Arg	Thr	Arg	Thr	Gly	Lys	165	170	175	
Gly	Gln	Val	Ile	Asp	Ala	Asn	Met	Val	Glu	Gly	Thr	Ala	Tyr	Leu	Ser	180	185	190	
Ser	Phe	Leu	Trp	Lys	Thr	Gln	Lys	Ser	Ser	Leu	Trp	Glu	Ala	Pro	Arg	195	200	205	
Gly	Gln	Asn	Met	Leu	Asp	Gly	Gly	Ala	Pro	Phe	Tyr	Thr	Thr	Tyr	Arg	210	215	220	
Thr	Ala	Asp	Gly	Glu	Phe	Met	Ala	Val	Gly	Ala	Ile	Glu	Pro	Gln	Phe	225	230	235	240
Tyr	Glu	Leu	Leu	Ile	Lys	Gly	Leu	Gly	Leu	Lys	Ser	Asp	Glu	Leu	Pro	245	250	255	
Asn	Gln	Met	Ser	Met	Asp	Asp	Trp	Pro	Glu	Met	Lys	Lys	Lys	Phe	Ala	260	265	270	
Asp	Val	Phe	Ala	Lys	Lys	Thr	Lys	Ala	Glu	Trp	Cys	Gln	Ile	Phe	Asp	275	280	285	
Gly	Thr	Asp	Ala	Cys	Val	Thr	Pro	Val	Leu	Thr	Phe	Glu	Glu	Val	Val	290	295	300	
His	His	Asp	His	Asn	Lys	Glu	Arg	Gly	Ser	Phe	Ile	Thr	Ser	Glu	Glu	305	310	315	320
Gln	Asp	Val	Ser	Pro	Arg	Pro	Ala	Pro	Leu	Leu	Asn	Thr	Pro	Ala		325	330	335	
Ile	Pro	Ser	Phe	Lys	Arg	Asp	Pro	Phe	Ile	Gly	Glu	His	Thr	Glu	Glu	340	345	350	
Ile	Leu	Glu	Glu	Phe	Gly	Phe	Ser	Arg	Glu	Glu	Ile	Tyr	Gln	Leu	Asn	355	360	365	
Ser	Asp	Lys	Ile	Ile	Glu	Ser	Asn	Lys	Ala	Gly	Ser	Lys	Phe	Trp	Ile	370	375	380	
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 Met Ala Leu Gln Gly Ile Ser Val
 1 5

gtg gag ctg tcc ggc ctg gcc ccg ggc ccg ttc tgt gct atg gtc ctg 161
 Val Glu Leu Ser Gly Leu Ala Pro Gly Pro Phe Cys Ala Met Val Leu
 10 15 20

gct gac ttc ggg gcg cgt gtg gta cgc gtg gac cgg ccc ggc tcc cgc 209
 Ala Asp Phe Gly Ala Arg Val Val Arg Val Asp Arg Pro Gly Ser Arg
 25 30 35 40

tac gac gtg agc cgc ttg ggc ccg ggc aag cgc tcg cta gtg ctg gac 257
 Tyr Asp Val Ser Arg Leu Gly Arg Gly Lys Arg Ser Leu Val Leu Asp
 45 50 55

ctg aag cag ccg ccg gga gcc gcc gtg ctg ccg cgt ctg tgc aag ccg 305
 Leu Lys Gln Pro Arg Gly Ala Ala Val Leu Arg Arg Leu Cys Lys Arg
 60 65 70

tcg gat gtg ctg ctg gag ccc ttc cgc cgc ggt gtc atg gag aaa ctc 353
 Ser Asp Val Leu Leu Glu Pro Phe Arg Arg Gly Val Met Glu Lys Leu
 75 80 85

cag ctg ggc cca gag att ctg cag ccg gaa aat cca agg ctt att tat 401
 Gln Leu Gly Pro Glu Ile Leu Gln Arg Glu Asn Pro Arg Leu Ile Tyr
 90 95 100

gcc agg ctg agt gga ttt ggc cag tca gga agc ttc tgc ccg tta gct 449
 Ala Arg Leu Ser Gly Phe Gly Gln Ser Gly Ser Phe Cys Arg Leu Ala
 105 110 115 120

ggc cac gat atc aac tat ttg gct ttg tca ggt gga agg aac agc ata 497
 Gly His Asp Ile Asn Tyr Leu Ala Leu Ser Gly Gly Arg Asn Ser Ile
 125 130 135

ttt aag ttc ttt tct gtg gaa aac tca gaa atc gag tct gtg gga agc 545
 Phe Lys Phe Phe Ser Val Glu Asn Ser Glu Ile Glu Ser Val Gly Ser
 140 145 150

acc tcg agg aca gaa cat gtt gga tgg tgg agc acc ttt cta tac gac 593
 Thr Ser Arg Thr Glu His Val Gly Trp Trp Ser Thr Phe Leu Tyr Asp
 155 160 165

tta cag gac agc aga tgg gga att cat ggc tgt tgg agc aat aga acc 641
 Leu Gln Asp Ser Arg Trp Gly Ile His Gly Cys Trp Ser Asn Arg Thr
 170 175 180

cca gtt cta cga gct gct gat caa agg act tgg act aaa gtc 683
 Pro Val Leu Arg Ala Ala Asp Gln Arg Thr Trp Thr Lys Val
 185 190 195

tgatgaactt cccaatcaga tgagcatgga tgattggcca gaaatgaaga agaagtttgc 743
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 <212> PRT
 <213> Homo sapiens

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 Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
 35 40 45
 Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
 50 55 60
 Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
 65 70 75 80
 Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85 90 95
 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
 100 105 110
 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
 115 120 125
 Leu Ser Gly Gly Arg Asn Ser Ile Phe Lys Phe Phe Ser Val Glu Asn
 130 135 140
 Ser Glu Ile Glu Ser Val Gly Ser Thr Ser Arg Thr Glu His Val Gly
 145 150 155 160
 Trp Trp Ser Thr Phe Leu Tyr Asp Leu Gln Asp Ser Arg Trp Gly Ile
 165 170 175
 His Gly Cys Trp Ser Asn Arg Thr Pro Val Leu Arg Ala Ala Asp Gln
 180 185 190
 Arg Thr Trp Thr Lys Val
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<210> 10

<211> 2005

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (66)...(1211)

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 Met Ala Leu Gln Gly Ile Ser Val Val Glu Leu Ser Gly Leu Ala
 1 5 10 15

 ccg ggc ccg ttc tgt gct atg gtc ctg gct gac ttc ggg gcg cgt gtg 158
 Pro Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val
 20 25 30

 gta cgc gtg gac ccg gcc tcc cgc tac gac gtg agc cgc ttg ggc 206
 Val Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly
 35 40 45

 ccg ggc aag cgc tcg cta gtg ctg gac ctg aag cag ccg ccg gga gcc 254
 Arg Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala
 50 55 60

 gcc gtg ctg ccg cgt ctg tgc aag ccg tcg gat gtg ctg ctg gag ccc 302
 Ala Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro
 65 70 75

ttc cgc cgc ggt gtc atg gag aaa ctc cag ctg ggc cca gag att ctg	350
Phe Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu	
80 85 90 95	
cag cgg gaa aat cca agg ctt att tat gcc agg ctg agt gga ttt ggc	398
Gln Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly	
100 105 110	
cag tca gga agc ttc tgc cgg tta gct ggc cac gat atc aac tat ttg	446
Gln Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu	
115 120 125	
gct ttg tca ggt gtt ctc tca aaa att ggc aga agt ggt gag aat ccg	494
Ala Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro	
130 135 140	
tat gcc ccg ctg aat ctc ctg gct gac ttt gct ggt ggt ggc ctt atg	542
Tyr Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met	
145 150 155	
tgt gca ctg ggc att ata atg gct ctt ttt gac cgc aca cgc act ggc	590
Cys Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Gly	
160 165 170 175	
aag ggt cag gtc att gat gca aat atg gtg gaa gga aca gca tat tta	638
Lys Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu	
180 185 190	
agt tct ttt ctg tgg aaa act cag aaa tcg agt ctg tgg gaa gca cct	686
Ser Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro	
195 200 205	
cga gga cag aac atg ttg gat ggt gga gca cct ttc tat acg act tac	734
Arg Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr	
210 215 220	
agg aca gca gat ggg gaa ttc atg gct gtt gga gca ata gaa ccc cag	782
Arg Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln	
225 230 235	
ttc tac gag ctg ctg atc aaa gga ctt gga cta aag tct gat gaa ctt	830
Phe Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu	
240 245 250 255	
ccc aat cag atg agc atg gat gat tgg cca gaa atg aag aag aag ttt	878
Pro Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe	
260 265 270	
gca gat gta ttt gca aag aag acg aag gca gag tgg tgt caa atc ttt	926
Ala Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe	
275 280 285	
gac ggc aca gat gcc tgt gtg act ccg gtt ctg act ttt gag gag gtt	974
Asp Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val	
290 295 300	

gtt cat cat gat cac aac aag gaa cgg ggc tcg ttt atc acc agt gag 1022
 Val His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu
 305 310 315

gag cag gac gtg agc ccc cgc cct gca cct ctg ctg tta aac acc cca 1070
 Glu Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro
 320 325 330 335

gcc atc cct tct ttc aaa agg gat cct ttc ata gga gaa cac act gag 1118
 Ala Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu
 340 345 350

gag ata ctt gaa gaa ttt gga ttc agc cgc gaa gag att tat cag ctt 1166
 Glu Ile Leu Glu Glu Phe Gly Phe Ser Arg Glu Glu Ile Tyr Gln Leu
 355 360 365

aac tca gat aaa atc att gaa agt aat aag gta aaa gct agt ctc 1211
 Asn Ser Asp Lys Ile Ile Glu Ser Asn Lys Val Lys Ala Ser Leu
 370 375 380

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 caagaaaaga attacagact ctgattctac agtgatgatt gaattctaaa aatgggttatc 1391
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 35 40 45
 Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
 50 55 60
 Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
 65 70 75 80
 Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85 90 95
 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
 100 105 110
 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
 115 120 125

Leu	Ser	Gly	Val	Leu	Ser	Lys	Ile	Gly	Arg	Ser	Gly	Glu	Asn	Pro	Tyr
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Ala	Pro	Leu	Asn	Leu	Leu	Ala	Asp	Phe	Ala	Gly	Gly	Gly	Leu	Met	Cys
145					150					155					160
Ala	Leu	Gly	Ile	Ile	Met	Ala	Leu	Phe	Asp	Arg	Thr	Arg	Thr	Gly	Lys
				165					170						175
Gly	Gln	Val	Ile	Asp	Ala	Asn	Met	Val	Glu	Gly	Thr	Ala	Tyr	Leu	Ser
			180					185					190		
Ser	Phe	Leu	Trp	Lys	Thr	Gln	Lys	Ser	Ser	Leu	Trp	Glu	Ala	Pro	Arg
		195					200					205			
Gly	Gln	Asn	Met	Leu	Asp	Gly	Gly	Ala	Pro	Phe	Tyr	Thr	Thr	Tyr	Arg
210						215					220				
Thr	Ala	Asp	Gly	Glu	Phe	Met	Ala	Val	Gly	Ala	Ile	Glu	Pro	Gln	Phe
225					230					235					240
Tyr	Glu	Leu	Leu	Ile	Lys	Gly	Leu	Gly	Leu	Lys	Ser	Asp	Glu	Leu	Pro
				245				250						255	
Asn	Gln	Met	Ser	Met	Asp	Asp	Trp	Pro	Glu	Met	Lys	Lys	Lys	Phe	Ala
			260					265					270		
Asp	Val	Phe	Ala	Lys	Lys	Thr	Lys	Ala	Glu	Trp	Cys	Gln	Ile	Phe	Asp
		275					280					285			
Gly	Thr	Asp	Ala	Cys	Val	Thr	Pro	Val	Leu	Thr	Phe	Glu	Glu	Val	Val
	290					295					300				
His	His	Asp	His	Asn	Lys	Glu	Arg	Gly	Ser	Phe	Ile	Thr	Ser	Glu	Glu
305					310					315					320
Gln	Asp	Val	Ser	Pro	Arg	Pro	Ala	Pro	Leu	Leu	Leu	Asn	Thr	Pro	Ala
				325					330					335	
Ile	Pro	Ser	Phe	Lys	Arg	Asp	Pro	Phe	Ile	Gly	Glu	His	Thr	Glu	Glu
			340					345					350		
Ile	Leu	Glu	Glu	Phe	Gly	Phe	Ser	Arg	Glu	Glu	Ile	Tyr	Gln	Leu	Asn
		355				360					365				
Ser	Asp	Lys	Ile	Ile	Glu	Ser	Asn	Lys	Val	Lys	Ala	Ser	Leu		
	370					375					380				